

157 AND 158 GROUPS

PROCESSES AND PROPERTIES INDEX

Replacement of silver nitrate in control determination of chlorides. L. G. Urusovskaya and P. I. Zhilina. *Zavodskaya Lab.* 15, 607-0(1949).—AgNO<sub>3</sub> can be replaced in Cl titrations by Hg(NO<sub>3</sub>)<sub>2</sub> with Na nitroprusside as indicator, which gives insol. Hg nitroprusside as soon as the HgCl<sub>2</sub> formation is complete. G. M. Kowlapoff

7

CA

Cyanide determination by titration with nickel ammonium sulfate. L. G. Urusovskaya and P. I. Zhilina. *Zashchita Lab.* 13, 740-1(1949).--Dil. the soln. to 100 ml., make slightly basic with 1 ml. of concd.  $\text{NH}_4\text{OH}$  in excess and add 0.5 ml. dimethylglyoxime soln. in  $\text{EtOH}$  (0.9 g. in 100 ml.), and titrate with a soln. of 19.75 g.  $\text{NiSO}_4 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 6\text{H}_2\text{O}$  in 1 l.  $\text{H}_2\text{O}$  contg. 2 ml. concd.  $\text{H}_2\text{SO}_4$ . The red endpoint of Ni glyoxime appears when all CN is in the form of the complex  $\text{Ni}(\text{CN})_4$ .  
G. M. Krasakoff

CA

7

*Rapid determination of total nitrogen in calcium cyanamide. L. G. Prusovskaya and T. M. Shuryayeva. Zashchita Tr. 15, 1005 (1970). A 0.1-g. sample digested with 0.5 g.  $K_2SO_4$ , 0.01 g. Se, and 3 ml.  $H_2SO_4$ , 15 min. and dild. with 5-6 ml.  $H_2O$  is subjected to usual micro-Kjeldahl N detn. with a distn. app. in which the steam delivery tube almost reaches the bottom of the distn. flask and can be used for withdrawing the spent soln. and for washing the app. without disassembly. The latter feature cuts time requirement to 10-15 min. Typical samples can be analyzed within 0.5%. G. M. K.*

S/072/60/000/009/006/007  
B021/B058

AUTHOR: Urusovskaya, L. N.

TITLE: The Possibility of Determining the Crystallizability of  
Glasses on the Basis of the Composition

Abstract: *Abstract: Urusovskaya, L. N., pp. 34-36*

TEXT: The paper by L. I. Demkina, P. V. Bukharinova, and L. N. Urusovskaya dealt with calculating the composition of low-crystallizing glasses. Some rules were discovered in this connection which enable one to predict the crystallizability of acid silica glasses on the basis of their composition. The results of the definition and development of these investigations are explained in the paper under review. Glasses of the ternary system  $K_2O-Na_2O-SiO_2$  were chosen for the investigations. Crown-, light barium crown-, crown flint- and light flint glass types are obtained by introducing a fourth component  $B_2O_3$ ,  $PbO$ ,  $BaO$ ,  $ZnO$ ,  $CaO$ . The method by L. I. Demkina was used for the projection of four-component glasses on the equilibrium diagram of the ternary system  $K_2O-Na_2O-SiO_2$ . Two values

Card 1/3

The Possibility of Determining the Crystallizability of Glass on the Basis of Its Composition

S/072/60/000/009/006/007  
B021/B058

served as main parameters of the projection: the ratio between the content of potassium oxide and sodium oxide in the glass ( $K_2O/Na_2O$ ) and the excess  $\Delta SiO_2$  of silica related to glass with balanced composition. The crystallizability is shown in Fig. 1, as well as the primary crystallization phase of glasses of the ternary system  $K_2O-Na_2O-SiO_2$  with the phase boundary after a period of 24 hours. The cristobalite forming in the tridymite field merges into tridymite, which conforms with Ostwald's law. The position of projections in the equilibrium diagram of the system  $K_2O-Na_2O-SiO_2$  and the highest degree of crystallization in 24 hours are shown in Figs. 2-5 for four-component glasses with 10 mole% ZnO, 5 mole% PbO, 5 mole% CaO and 5 mole%  $B_2O_3$ . A reduction of the crystallizability with a reduction of the silica content and a substitution of sodium oxide by potassium oxide can be observed in this case, as well as in glasses of the ternary system. The equilibrium diagrams of the systems  $K_2O-ZnO-SiO_2$ ,  $K_2O-PbO-SiO_2$ ,  $Na_2O-PbO-SiO_2$ ,  $Na_2O-CaO-SiO_2$ .

fluoroborate glasses with  $n_D \geq 1.6$  were made. The refractive index was measured by N. Ye. Truskeva with Pulfrich's refractometer. The content of fluorine and boric anhydride in the glass and of fluorine in the sublimate was determined. N. V. Korolev carried out a microspectral analysis of the glass sublimate of LF9 glass. Heat-treatment of LF9 glass at  $1300^\circ\text{C}$  for 1 - 8 hrs has shown that volatilization ( $\text{mg}/\text{cm}^2 \cdot \text{hr}$ ) decreased with time. The increase in the refractive index is proportional to the loss of fluorine. The loss of 1% F increases  $n_D$  by an average of  $47 \cdot 10^{-4}$ . The Card 1/8 ✓

Volatility of fluoro-titanic flints

S/072/61/000/012/001/003  
E105/B110

loss in weight of the glass, however, is twice as high as the loss of fluorine. On the basis of the microspectral analysis of the sublimates of LF9 glass, the components of the glass which volatilize together with the fluorine were determined. On the basis of the atomic concentrations in the sublimate: F : K : Si : Ti : Al : B = 1.0 : 0.33 : 0.079 : 0.027 : 0.035 : 0.045, and assuming that all the elements volatilize in the form of fluorides, the sublimate contains: 52.0% KF, 22.3% SiF<sub>4</sub>, 9.1% TiF<sub>4</sub>, 8.0% AlF<sub>3</sub>, 8.3% BF<sub>3</sub>, and 0.3% F. Therefore, during the melting of the fluoro-titanic flints, the fluorides of several elements contained in the glass volatilize, the ratio of fluorides depending on the glass composition. This was proved by determining the losses  $\Delta F$  and  $\Delta RO_2$  on glass specimens of different compositions (Table 1). There are 4 figures, 2 tables, and 1 Soviet-bloc reference.

Legend: The table 1. The results of the microspectral analysis of the sublimates of LF9 glass. The parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

S/080/60/033/009/019/021/XX  
A003/A001

AUTHOR: Urusovskaya, I.N.

TITLE: The Refractive Index and the Density of Sodium-Potassium Silicate Glasses ✓

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 9, pp. 1992-1995

TEXT: It is known that glasses containing potassium oxide and sodium oxide have a higher chemical resistance than glasses containing only one of the two substances mentioned. This "effect of two alkalis" is observed also with regard to electric conductivity, hardness, etc. The manifestation of this effect in the refractive index and the density of glasses is investigated here. Glasses of the ternary system  $K_2O-Na_2O-SiO_2$  were used in the experiments with a constant  $SiO_2$  content and varying percentages of potassium and sodium oxides. The refractive index was measured with an ИРФ-25 (IRF-25) refractometer or with a goniometer. The results of the measurements are shown in a table. With an increase of the relative sodium oxide content the refractive index and the density first increase and then decrease. The conclusion was drawn that the effect of two alkalis manifests itself by a change of 1-2 units of the third

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S/080/60/033/X00/019/471/XX  
A003/A001

The Refractive Index and the Density of Sodium-Potassium Bifluoride Glasses  
digit after the decimal point for up and by 1-2 units of the second digit  
after the decimal point for the density. The measurements were made by N.Ye.  
Truskova and T.A. Strugova. There are 1 figure, 1 table and 6 references: 2  
Soviet, 3 English, 1 French.

SUBMITTED: February 13, 1960

Card 2/2

L 39685-66 EWP(e)/EWT(m) GD-2/WH

ACC NR: AP6009531 (A) SOURCE CODE: UR/0413/66/000/005/0060/0060

INVENTOR: Demkina, L. I.; Urusovskaya, L.N.

10  
B

ORG: none

TITLE: Optical glass.<sup>15</sup> Class 32, No. 179441<sup>15</sup>

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
no. 5, 1966, 60

TOPIC TAGS: optic glass, light refraction, light dispersion

ABSTRACT: An Author Certificate has been issued for optical glass containing  $B_2O_3$  and  $Al_2O_3$ . To obtain glass with refraction of 1.56--1.64, a coefficient of dispersion of 38--32, and relative partial dispersion in the blue part of the spectrum of 0.630 - 0.645, it should contain the following components (wt %):  $B_2O_3$  not more than 7;  $Al_2O_3$  not more than 1; and, in addition,  $Al(PO_3)_3$  40--55;  $Bi_2O_3$  not more than 10; KF 5-12, PbO not more than 7; NaF 15--25;  $WO_3$  not more than 3;  $TiO_3$  5--15. [NT]

SUB CODE: 20/

SUBM DATE: 11Dec61/

Card 1/1 046

UDC: 666.112.92;666.221.4

2

URUSOVSKIY, I. A.

"Sound Scattering at a Sinusoidal Surface with an Impedance Varying  
Periodically Along the Surface."

paper presented at the 14th All-Union Acoustical Conf., Moscow, 26 May - 4 June 58.

24(1)

SOV/46-5-3-13/32

AUTHOR: Urusovskiy, I.A.

TITLE: Scattering of Sound on a Non-Uniform Sinusoidal Surface with Normal Acoustic Admittance (Rasseyaniye zvuka na neodnorodnoy poverkhnosti sinusoidal'noy formy kharakterizuyushchey normal'noy akusticheskoy provodimost'yu)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 365-362 (USSR)

ABSTRACT: The author solves approximately the problem of scattering of sound by a fairly smooth sinusoidal surface with normal acoustic admittance. The exact integral equation which describes the field on the surface was solved approximately; the field above the surface was found from the field on the surface using Green's formula. The region of applicability of the solution obtained in this way does not depend on the properties of the incident acoustic field of a given frequency, for example the solution obtained for an incident plane wave is valid for all angles of incidence. The paper is entirely theoretical. Acknowledgment is

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SOV/46-5-3-13/32  
Scattering of Sound on a Non-Uniform Sinusoidal Surface with Normal Acoustic  
Admittance

made to Yu.L. Gazaryan and G.D. Malyuzhinets for their advice. There  
are 1 figure and 4 references, 2 of which are Soviet and 2 English.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute, Ac.Sc. USSR,  
Moscow)

SUBMITTED: July 17, 1958

Card 2/2

84(1)

SOV/46-5-3-30/32

AUTHOR: Prunovskiy, I.A.

TITLE: On compensation of a reactive load on harmonic radiators (O kompensatsii reaktivnoy nagruzki garmonticheskikh izluchatel'ey)

PERIODICAL: Akusticheskiy zhurnal, 1969, Vol 6, Nr 3, pp 383-386 (USSR)

ABSTRACT: Emission of high-intensity low-frequency sound is impeded by large reactive loads on electromechanical transducers; such loads are many times greater than the useful (active) load in the case of radiators of dimensions much smaller than the acoustic wavelength. These reactive loads are due to the inertia of the vibrating parts of the system and the "associated" mass of the radiator. The reactive load of a piston-type harmonic radiator may be compensated by using two identical pistons working with a phase difference of  $\pi/2$  between them and able to interchange reactive energy by means of a mechanical transmission. Since the reactive energy can be regarded as the kinetic energy of the piston and "associated" masses, alternating in each piston at double the radiator frequency, a phase shift of  $\pi/2$  ensures that the kinetic energies of the first and second pistons are always opposite in sign. Every quarter of a period the

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SOV/46-5-3-30/32

On Compensation of a Reactive Load on Harmonic Radiators

direction of the energy flow between the pistons is reversed. The work necessary to overcome the inertia of the piston and "associated" masses of one piston is drawn from the kinetic energy of the other piston. This interchange of their kinetic energies eliminates the reactive load on the prime mover. Since at low frequencies mechanical energy transfer is practically loss-less, the compensation proposed does not lead to additional energy expenditure.

ASSOCIATION: Akusticheskoye Institut, AN SSSR, Moskva (Acoustical Institute, A. S. S. U. S. S. R., Moscow)

RECEIVED: January 11, 1988

and p. 6

URUSOVSKIY, I.A.

Diffraction of waves on a periodic surface. Akust. zhurn. 19: 3  
346-348, 1973.

1. Akusticheskiy institut AN SSSR, Moskva.



UDOVYKHIN, I.A.

Diffraction of waves on a sinusoidal surface. Akust. zhur. 11  
no.1:93-101 '65. (MIRA 18:4)

1. Akusticheskiy institut AN SSSR, Moskva.

ACC NR: AP7000151

SOURCE CODE: UR/0046/66/012/004/0493/0494

AUTHOR: Urusovskiy, I. A.

ORG: Acoustical Institute, AN SSSR, Moscow (Akusticheskiy institut AN SSSR)

TITLE: Excitation of surface waves

SOURCE: Akusticheskiy zhurnal, v. 12, no. 4, 1966, 491-494

TOPIC TAGS: electromagnetic wave, travelling wave interaction, electromagnetic wave reflection, acoustic wave, dielectric waveguide

ABSTRACT: The possibility of amplifying surface electromagnetic waves by means of an investigation. This investigation supplements the results of L. A. Janyshkov (Difraktsiya v otkrytykh rezonatorakh i otkrytykh volnovodakh s ploskimi zerkalami. Zh. tekhn. fiz., 1964, 34, 2, 139--204). It was found that amplification of excited surface waves in a plane dielectric surface was possible if the experimental arrangement provided a source between mirrors and the mirrors in direct contact with and perpendicular to the retarding surface. With such an arrangement, the expression for the reflection coefficient R of an impinging wave on the mirror surface was derived as

$$R = R_0 \left\{ 1 - e^{-2\gamma(h-h)} \left[ 1 + \frac{\gamma^2}{\beta^2} + \gamma h \left( 1 + \frac{\gamma^2}{\beta^2} \right) \right]^{-1} \right\},$$

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UDC: 534.231.1

ACC NR: AP7000151

where  $R_{\infty}$  is the reflection coefficient for an infinitely large mirror,  
 $\gamma = \sqrt{\kappa^2 - k^2}$ ,  $k$  - the wave number,  $2h$  - thickness of surface layer;  $H$  - a function  
 $\kappa$ ,  $r$  - the distance from the source,  $s$  - ratio of dielectric constant of surrounding  
 medium to that of the surface layer. It is concluded that a similar analysis applies  
 to three-dimensional problems. Orig. art. has: 4 equations.

SUB CODE: 20/ SUBM DATE: 28May65/ ORIG REF: 007

Card 2/2

URUSZON, A.M. [Uryson, A.M.]

Utilization of anthropological data in the light industry.  
Szabvany kozl 16 no. 8:135-137 Ag '64.

ACC NR: AR6035130

SOURCE CODE: UR/0275/66/000/009/A032/A032

AUTHOR: Urutyan, R. L.

TITLE: Analyzer for measuring amplitude

SOURCE: *Rad. zh. Elektronika i yeye primeneniye*, Abn. 0A222

REF SOURCE: *Tr. Vychisl. tsentr AN ArmSSR i Yerevanuk. un-ta*, vyp. 3, 1965, 81-87

TOPIC TAGS: photoelectron multiplier, pulse analyzer, photoelectric device, electronic radiation counter, radiation counter, analyzer

ABSTRACT: A brief description is given of an analyzer used to determine the amplitude of the spectrum of the output pulses of a photoelectron multiplier used in a photoscintillation counter for the registration of cosmic radiation. The analyzer is made with transistors and is based on the amplitude—time conversion principle. For the purpose of linearizing the capacitor discharge, the converter includes a transistor to match the emitter—base voltage and is but in a circuit with a grounded base. The current of this transistor's collector is practically

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UDC: 621.383.5

ACC NR: AR6035130

independent of a wide range of applied voltage. The out-put pulse of the converter is "monitored" by a high-frequency generator (0.5 Mc) and is directed into a binary scaler. The analyzer operates within an accuracy of  $\sim 0.1-0.3$  volts, has a time resolution of 500  $\mu$ sec, and error of  $\leq 1.5\%$ , and uses 0.4 watts at 10 v. A bibliography of 3 titles is included. [Translation of abstract] [SP]

SUB CODE: 09/

Card 2/2

Sov/85-58-8-33/40

AUTHORS: Uruvayev, S.; Sharashkin, N. and Semenov, S. (Vladimir)

TITLE: Komsomol Members' Handiwork (Rukani Komsomol'tsev)

PERIODICAL: Kryl'ya rodiny, 1958, Nr 8, p 27 (USSR)

ABSTRACT: Komsomol members of the Vladimirskiy oblastnoy aeroklub (Vladimir Oblast Aeroklub) are said to have produced various technical displays and equipment for educational purposes.

Card 1/1

URUVAYEVA, G.D.; PENDYURINA, T.Ye.

Thermal analysis in the determination of the heat of dehydration  
of  $4\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{Fe}_2\text{O}_3$ . Izv. SO AN SSSR no.11 Ser.khim.nauk.no.3:  
26-29 '63. (MIRA 17:3)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR,  
Novosibirsk.



PAVLICHENKO, V.S., kand. tekhn. nauk; URVACHEV, A.A., Inzh.

Design of welded flanges of heat exchangers. Svar. proizvod. no.3:  
25-27 Mr '64. (MIRA 18:9)

1. Bryanskiy institut transportnogo mashinostroyeniya (for Pavlichenko). 2. Lyudimovskiy teplovozobremennyy zavod (for Urvachev).

URVACHEV, F., Eng.

Hot water Supply

Installation supplying the factory with hot water. Mol. arm. 13, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

URVACHEV, P.

Agricultural Machinery

Using electric motors in agricultural production. Kolkh. proizv., 12, No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October <sup>2</sup>1953. Unclassified.

URVACHEV, P. N.

"Investigation of Electrical Characteristics of Stationary Agricultural Machines with Electric Drive." 29 Apr '52.

Dissertation for the degree of Cand. Tech. Sci. at the All-Union Inst. for the Mechanization and Electrification of Agriculture.

Official opponents were: Dr. Tech. Sci. Prof. N. A. Z Sazonov, Cand. Tech. Sci. Doc. G. I. Nazarov and Cand. Tech. Sci. V. S. Krasnov.

SOV/112-57-5-10418

8 (5)

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 5,  
pp 124-125 (USSR)

**AUTHOR:** Urvachev, P. N.

**TITLE:** Investigation of Electric Drives of Stationary Farm Machinery  
(Issledovaniye elektroprivodov statsionarnykh sel'skokhozyaystvennykh mashin)

**PERIODICAL:** Nauch. tr. Vses. n.-i. in-t elektrifik. s. kh., 1956, Vol 2, pp 29-69

**ABSTRACT:** Three groups of farm machines were investigated: (1) those having flat load curves, linear or rippled (flourmills, grain cleaners, and milkers); (2) those with large-tooth-type load curves (cake breakers, hammer breakers, root cutters, root washers, and grain thrashers); and (3) those with sharply fluctuating loads, whose load curves have large teeth and wide valleys (straw-and-silo cutters and crushers). The above groups constituted 47.5, 33.4, and 19.1% respectively of the total number of machines. Experimental and theoretical studies have revealed that: (1) most electric motors carry overloads no higher than 120-130%; motors on thrashers, circular saws, and some

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SOV/112-57-5-10418

**Investigation of Electric Drives of Stationary Farm Machinery**

other machines sometimes carry overloads up to 200%; (2) no-load started machines have starting torques under 50% of their rated torque; however, small-capacity outdoor machines have starting torques up to 100% and, on rare occasions, up to 200% (when starting new machines or after long outage periods); (3) about 86% of stationary farm-machine types have mechanical characteristics ( $M/M_n$  depending on  $n/n_n$ ) for no-load starting, in the form of straight slanted lines; about 14% of the machines have characteristics in the form of parabolic segments; under-load mechanical characteristics of all machines can be represented by parabolas; (4) most stationary machines have a no-load acceleration period under 3 sec. However, threshers and crushers have an acceleration period of 7 sec, and separators, of 22 sec. When loaded machines are started, the acceleration period may reach as high as 20-30 sec, which is dangerous for their motors. Tests have shown that all stationary farm machines can be driven by electric motors of one series. Most machines permit application of

Card 2/3

*С.К. ВАСИЛЬЕВ*  
BREMER, G.I., doktor tekhn.nauk, prof.; GALDIN, M.V., inzh.; DEMIN, A.V.,  
kand.tekhn.nauk; ZYABLOV, V.A., kand.tekhn.nauk; KAPLUNOV, M.M.,  
inzh.; KASHEKOV, L.Ya., inzh.; KOROLEV, V.F., kand.tekhn.nauk;  
KRASHOV, V.S.; KULIK, M.Ye., kand.tekhn.nauk; MAKAROV, A.P., inzh.;  
NOVIKOV, G.I., kand.tekhn.nauk; MOSKOV, B.G., inzh.; OLENEV, V.A.,  
kand.vet.nauk; OSTANKOV, V.P., inzh.; PERCHIKHIN, A.V., inzh.;  
POKHVALENSKIY, V.P., kand.tekhn.nauk; SERAFIMOVICH, L.P., kand.  
tekhn.nauk; SMIRNOV, V.I., kand.tekhn.nauk; URYACHOV, P.M., kand.  
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and also monazite. Immense deposits of coal of excellent  
quality of Carboniferous and Permian age were found  
on the Kotuy River between N. lat. 70° 20' and 71° 30',  
well suited for bunkering ships on the Arctic, also of softer  
coal suited for ordinary com- or household purposes be-  
tween the Yenisei and Lena. Many indications of oil and  
bituminous deposits and much pure salt were also found.

C. A. Subertrad

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## PHASE I BOOK EXPLOITATION 304/3298

Academy of Sciences USSR, Ural'skiy filial. Gorno-geologicheskii institut.

Podzemnaya razrabotka rudnykh mestorozhdeniy (Underground Exploitation of Ore Deposits) Sverdlovsk [1960] 165 p. (Series: Itogi Nauki, v. 54) 1,000 copies printed.

Editorial Board: K. V. Kochnev, Professor, Doctor of Technical Sciences; L. Ye. Zubrilov, Candidate of Technical Sciences; A. A. Il'inskiy, Candidate of Technical Sciences. Ed. of Publishing House: M. S. Ebergardt; Tech. Ed.: N. P. Seredkina.

PURPOSE: This publication is intended for engineering and technical personnel in the mining industry.

COVERAGE: This is a collection of 22 articles by different authors on problems of underground exploitation of large massive ore deposits in the Urals. The articles are based on studies carried out in the Laboratory for the Exploitation of Ore Deposits of the Gorno-geologicheskii institut UPAN SSSR (Institute of Mining Geology, Ural Branch of USSR), between 1958-1959. No personifications are mentioned. Most of the articles are accompanied by references.

## TECHNOLOGY OF UNDERGROUND EXPLOITATION

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8-1-61

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New methods of raise driving. Trudy Gor.-geol.inst.UFAN SSSR  
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URVANTSOV, L.A.; TIMOFEYEV, Ye.I.

Impact tension testing of metals at various temperatures. Zav.  
lab.23 no.2:238-242 '57. (MLRA 10:3)  
(Metals--Testing)

ACC NR: A-7000164

(A)

Monograph

UR/

Urvantsov, Lev Alekseyevich

Erosion and protection of metals (Eroziya i zashchita metallov) 2d ed., rev. and enl. Moscow, Izd-vo "Mashinostroyeniye," 1966. 233 p. illus., biblio. 9,000 copies printed.

TOPIC TAGS: erosion, erosion resistant metal, erosion resistant alloy, erosion resistant plastic material, erosion prevention, cavitation

PURPOSE AND COVERAGE: This book is intended for designers and engineering personnel specializing in metal study and in development of erosion-resistant structures. It may also be useful for laboratory investigations of new materials. The book gives general information on various types of erosion (gas, cavitation, abrasion, electric, ultrasonic and other factors of erosion) of metals, alloys, coatings, and heat-resistant plastic materials. Present theories of erosion are discussed and methods of studying erosion-resistant materials are described. Factors determining the resistance of metals and coatings to hot-gas erosion are analyzed. The principal structural, technological, and operational means of protecting parts used under conditions of high thermal and dynamic load against gas erosion are discussed. The author expresses his thanks to Professor A. N. Kondrat'yev, Doctor of technical Sciences, for his assistance and guidance.

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UDC: 620.193.1

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Card 4/4

*U.R.*

AUTHORS: Timofeyev, Ye.I., Urvantsov, L.A.

32-11-38/60

TITLE: On the Method of Measuring the Dynamic Hardness of Metals (K voprosu o metode izmereniya dinamicheskoy tverdoti metallov)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1365-1368 (USSR)

ABSTRACT: For the purpose of judging the necessary properties of metals in various constructions (tubes, encasements, protective shields, etc.) it is of importance to know the resistivity against impact of the material; this resistivity is here described as "dynamic hardness". The following expression is here used for it:

$$H_{\text{dyn}} = \frac{A_{\text{deformation}}}{V_{\text{impression}}} \quad (H - \text{dynamic hardness, } A - \text{deformation,}$$

$V$  - volume of the cavity caused by the impact of the grain.) The following items are taken into account:  $A$  - the elastic force of rebound of the mass causing the impact, simple work;  $A_2$  - work with respect to resistances (forming of a cavity). In the case of  $A$  - percussion force of grains we obtain:  $A_{\text{deformation}} = A - A_1 - A_2$ . In the chapter dealing with the apparatus and the method of determining dynamic hardness the following device is described:

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On the Method of Measuring the Dynamic Hardness of Metals

32-11-38/60

On a common axis 2 pendulum devices are mounted on a stand (about 110 mm above the ground); the former, weighing 169 kg, serves the purpose of damping the percussion of the second (lighter) working pendulum of 7.3 kg. Both pendulums have a length of 1000 mm in the axis of motion. Upon the first (heavier) pendulum a dynamometer with the sample is mounted on the place of percussion. On the hammer surface of the second pendulum a ball of hard steel having a diameter of 15 mm is mounted which, when this pendulum hits the heavy pendulum, causes an indentation on the sample, which is connected with a rebound motion of the impinging pendulum as also with the light motion of the recipient of the impact - the heavy pendulum. All these factors are expressed as follows:

$$H_{\text{dyn}} = \frac{2P_m}{\pi D(D - \sqrt{D^2 - d^2})} \left[ \frac{\text{kg}}{\text{mm}^2} \right]$$

where D denotes the diameter of the sphere, d - diameter of the orator caused by impact,  $P_m$  - maximum force of impact. The average velocity of the impact is represented by the expression:

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On the Method of Measuring the Dynamic Hardness of Metals

32-11-38/60

$$v_{av.} = \frac{H_{dyn}}{\tau} \left[ \frac{kg}{mm^2 \cdot sec} \right]$$

The next chapter dealing with test results mentions the examples of calculations (in a table). In conclusion it is said that the calculation of dynamic hardness according to this method can be carried out by the application of the usual formula for the determination of static hardness. In the case of standardised types of steel, where static hardness amounts to 95-220 kg/mm<sup>2</sup>, the decrease of the value of the coefficient of dynamic hardness can be represented graphically by means of a straight line. There are 3 figures, 1 table, and 10 references, 9 of which are Slavic.

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Card 3/3

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kand. tekhn. nauk, retsenzent; IYZHIN, O.V., inzh., red.;  
BYSTRITSKAYA, V.V., red. izd-va; EL'KIND, V.D., tekhn.  
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(MIRA 13:2)

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[Photomultipliers in scintillation counters] Fotoumnozhiteli v  
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(Scintillation counters) (Photoelectric multipliers)



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put. khoz. 7 no.10:19 '63. (MIRA 16:12)

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L 23950-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6009846

SOURCE CODE: UR/0413/66/000/004/0037/0037

AUTHOR: Uryadko, V. N.

ORG: none

TITLE: A device for raising and lowering pneumatic antennas. Class 21, No. 170881

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 37

TOPIC TAGS: antenna, pneumatic servomechanism, remote control.

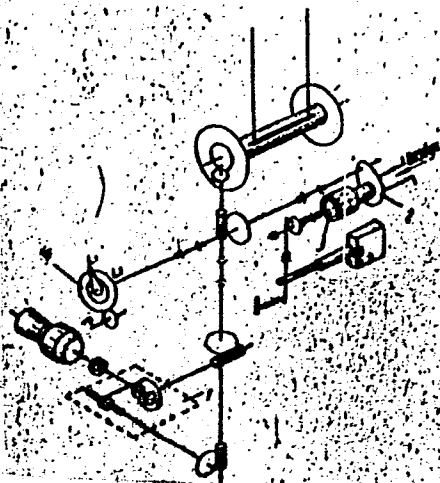
ABSTRACT: This Author's Certificate introduces a device for raising and lowering pneumatic antennas. The unit consists of kinematically connected elements for mechanical, pneumatic and electrical control. The air pressure in the cylinder is automatically controlled during raising and lowering of the antenna by using a variator with feedback kinematically connected to a baffle plate, an electromagnetic valve and altimeter contacts.

UDC: 621.316.79

Card 1/2

L 23950-66

ACC NR: AP6009846



1--variator with feedback; 2--baffle plate;  
3--electromagnetic valve; 4--contact alti-  
meter.

SUB CODE: 09,13/

SUBM DATE: 13Jun64/

ORIG REF: 000/

OTH REF: 000

Card 2/2

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX									
<p>CA</p> <p>Apparatus for the automatic control and regulation of the composition of gas. A. H. Wilson. Russ 56,011, Nov 20, 1910. The app. contains 2 chambers, one filled with a standard gas and the other with the gas to be tested. Elec. discharges are passed through each chamber and the intensities of sparks are compared by means of a photovolt and recording devices.</p>																			
<p>ASH-31A METALLURGICAL LITERATURE CLASSIFICATION</p>										<p>FROM BOMBY</p>									
<p>FROM BOMBY</p>										<p>FROM BOMBY</p>									